

State of Montana Data Centers (SMDC)

Efficient, Reliable and Secure



The Plan

- Build new data center in Helena and backup facility in Miles City so data centers are in different risk zones.
- Improve security of state's critical computing infrastructure
- Reduce carbon footprint by using green design principles
- Plan for business continuity in event of disaster
- Sized to accommodate consolidation of State computer facilities, when and if needed



Helena SMDC



Miles City SMDC

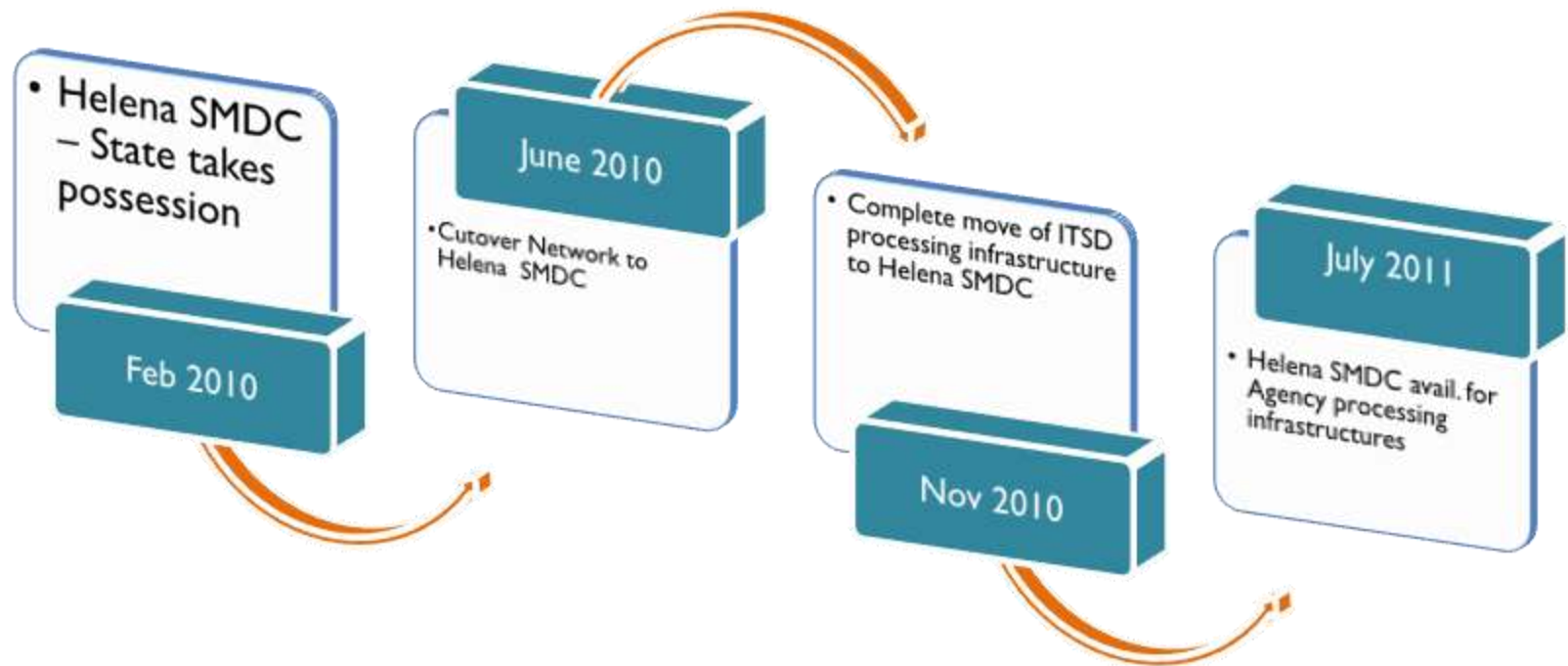


Federal Reserve SMDC

Data Center Facilities

Schedule for Helena SMDC Move

Subject to change – migration plan under development

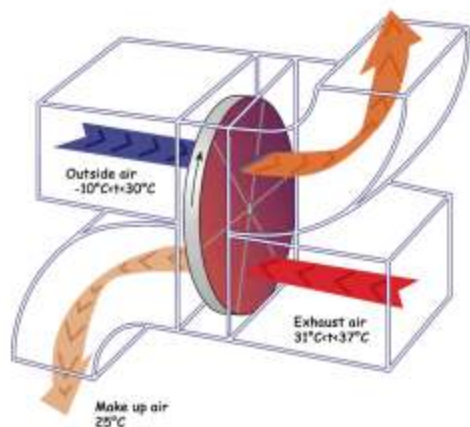




Helena SMDC

Helena SMDC

- 15000 sq ft building
- 6200 sq ft raised floor computer room
- 13 rows of racks available
- ITSD initially will occupy 2-3 rows
- 576 strand redundant fiber connections to Campus WAN
- KyotoCooling® - “the most innovative cooling technology in the world”





Helena SMDC

Helena SMDC, cont'd

- Design incorporates:
 - DOD Security Standards for Critical Infrastructure
 - Leadership in Energy and Environmental Design (LEED) Green Building Rating System
 - Expertise from Total Site Solutions – designers of 3,000 data centers worldwide



Helena SMDC



ENTERPRISE SYSTEMS SERVICE CENTER
INFORMATION TECHNOLOGY SERVICE DIVISION
HELENA, MONTANA



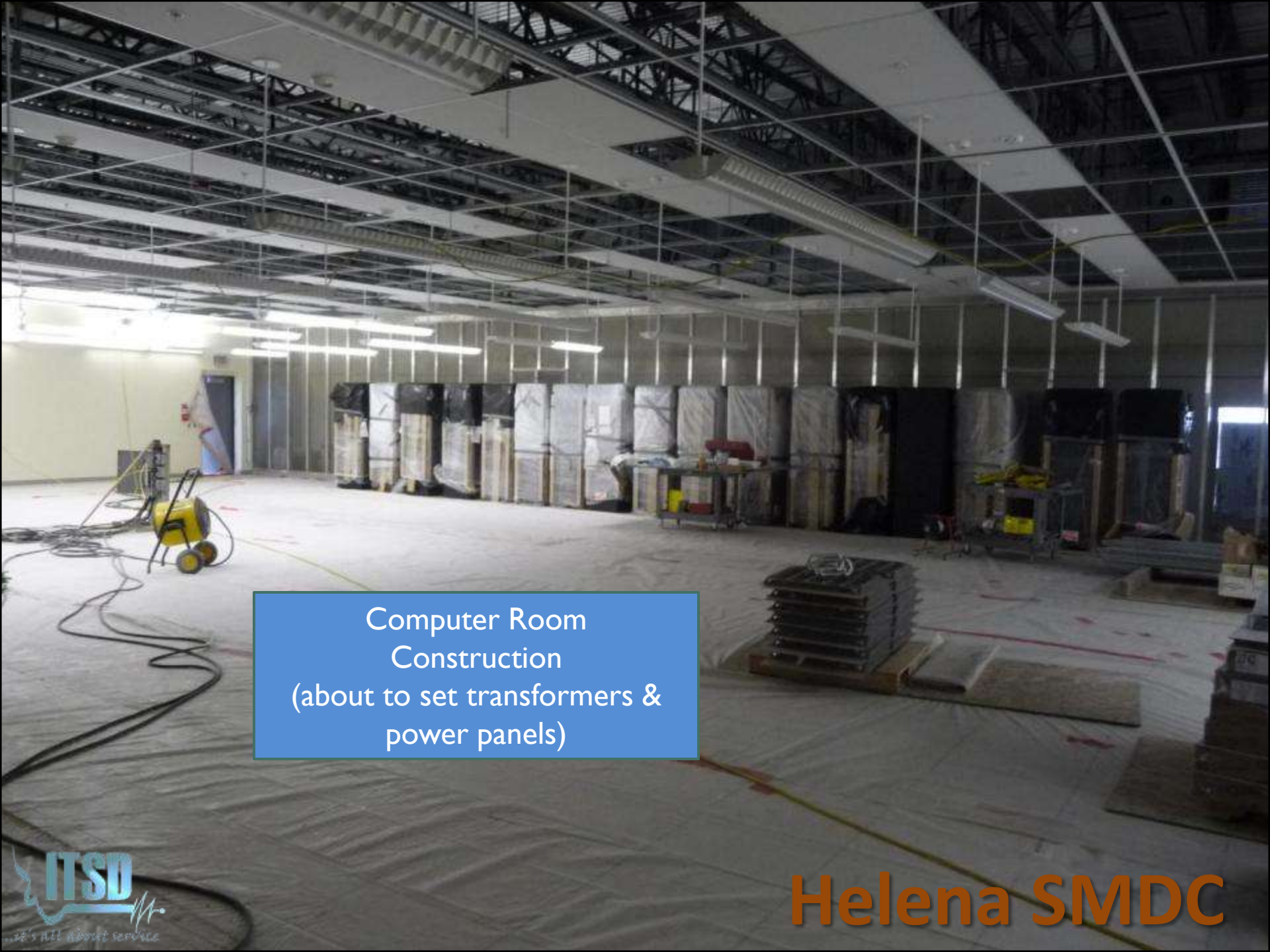
Concrete Reinforced
Masonry
Construction



Concrete Reinforced
Masonry
Construction



Helena SMDC



Computer Room
Construction
(about to set transformers &
power panels)



1000 kW
Diesel Generator



Assembling the Kyoto
Cooling Air Handler Units



One of three Kyoto Cooling
wheels being assembled



12 ft Diameter; > 1 acre
cooling surface

The Greater the Heat
Load, the More Efficient
Kyoto Cooling Runs!!



Kyoto Cooling Housing and Ducting:

1. Hot Air from DC
2. Outside Air Intake
3. Cool Air Supply to DC
4. Wheel Mounted Vertically

Helena SMDC

Setting the Kyoto Cooling Units





Cooling Towers for
Conventional Cooling
Backup Built-in
Kyoto Units



Landscaping and
Fencing
Nearing Completion



Enterprise Operations Center - EOC



Helena SMDC

- Dedicated resources in a secure, proactive environment
- 24 x7 support for the administration, operation and maintenance of computing, network and environmental systems housed in the SMDC
- Monitors IT assets of the State, escalating events where appropriate
- Governs and administers Disaster Recovery (DR) plans, processes and procedures for SMDC Information Systems and Network Services

Application Hosting Services



Helena SMDC

- Mainframe
- Windows Server
- AIX Server
- Web Server
- Citrix
- SharePoint
- SQL Database
- Oracle Database
- Electronic Document Management
- GIS Server

Data Storage Services



Helena SMDC

- Optical disk storage for images
- Fiber attached SAN
- iSCSI attached SAN
- Local server storage
- Agency owned disk storage
- Managed Backup



Helena SMDC

Network Services

- Diverse, redundant fiber paths between Helena SMDC and Campus network
- 576 strands fiber operating at Gigabit Ethernet speeds
- 200 Gb Internet Bandwidth
- Interconnected to the Enterprise WAN transport service - SummitNet

Reliable and Secure



Helena SMDC

- 24x7 Manned Operation by the Enterprise Operation Center (EOC)
- Strictly controlled, limited physical access
- Designed to “critical infrastructure” building standards for earthquake protection
- Utility and generator power sources
- Redundant Uninterruptable Power Supply (UPS) and power paths
- Configuration areas for new equipment
- Intrusion resistant glass
- Reinforced concrete masonry construction – same as prison construction
- Electronic/video monitoring of interior and exterior of the building



Helena SMDC

Co-Location Services

- For agency-owned processing infrastructures
- Rack space
- Design for remote support
- Limited hoteling space for employees during DC projects
- Available after migration of existing Mitchell Building equipment

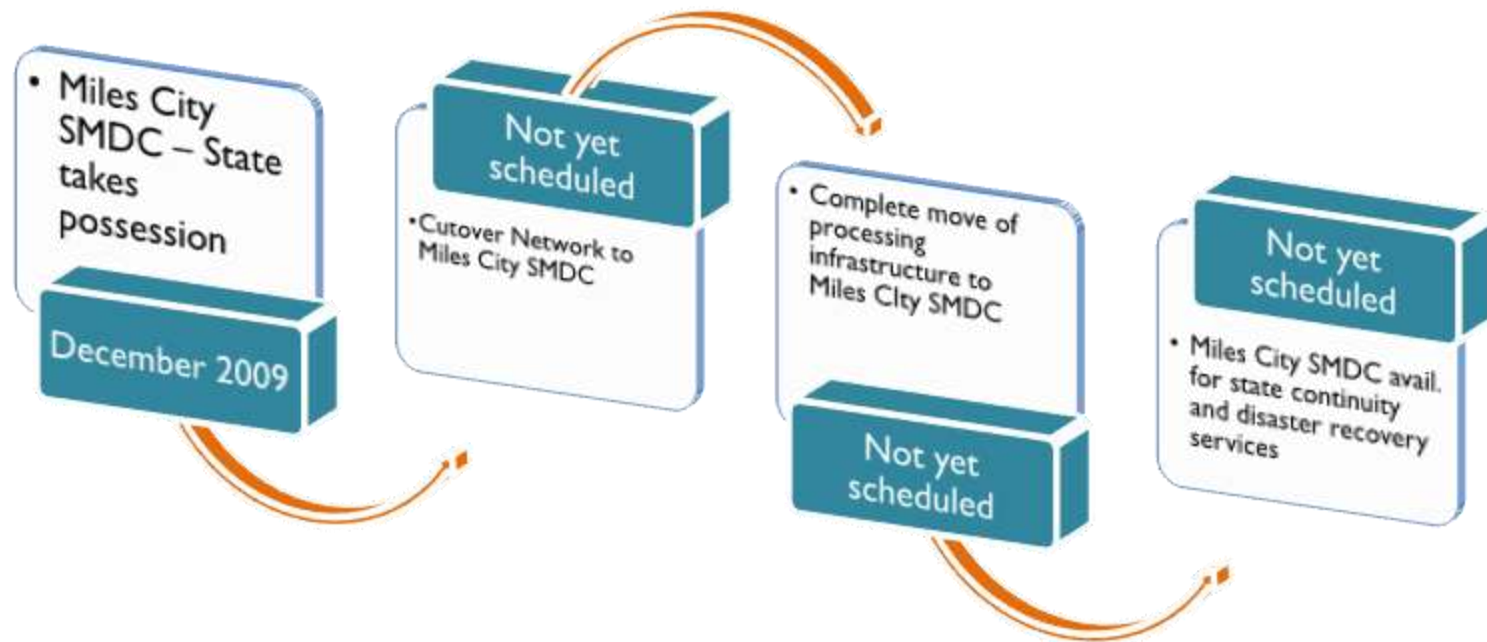


Miles City SMD

Miles City SMD

- 8500 sq ft building
- 2800 sq ft raised floor computer room
- 6 rows of racks
- Design incorporates:
 - DOD Security Standards for Critical Infrastructure
 - Leadership in Energy and Environmental Design (LEED) Green Building Rating System

Schedule for Miles City SMDC



Disaster Recovery Services



Miles City SMDC

- Provide sufficient capability to recover applications essential to government functions.
- Fully redundant failover capability engineered for critical applications that require high availability.
- Hotsite designed for resoration of applications within a defined period of time.
- Business continuity exercises to test recovery scenarios.



Redundant, state-of-the-art
electrical distribution



Secure perimeter; Intrusion detection; Video inside and outside





4000 gal. fuel tank for diesel power generation

State-of-the-art inert gas & dry
pipe fire suppression being
installed in DC room





**Federal Reserve
SMDC
Helena**

Federal Reserve SMDC

- Dedicated offsite backup storage
- Automated Tape Library
- High speed network connection to Helena SMDC
- Secure facility for technical staff
- Backup site for Capital campus staff

Tours

- Tours of the Helena SMDC will be scheduled in February
 - After construction is complete and building is commissioned
 - Before equipment is installed
- More information on the project is available at:
<http://stateitpmo.mt.gov/Projects/SMDC/default.mcpX>